

ABSTRACT OF THE DISCLOSURE

Web-based event/state-driven mechanisms and methods for simplifying communication between networked multifunction devices, such as copiers, printers, facsimile machines and multifunction devices using a networked database for the creation and presentation of device metrics and status data. Web-based multifunction performance metrics and calculations themselves are created within concurrent (multiple instances) of Web objects, wherein a Web object is a self-contained entity with data and a state machine lifecycle. State changes inside and outside the Web object are made by sending events to event queues and routing them to other state machines within other Web objects or instances of the same Web object. Data and events between Web objects are formed into a regular event syntax providing a simpler method of communication than those of procedural programming approaches. The arguments of the events are processed by specific instances of state machines that compose each Web object to perform an appropriate action. The metrics displays and corresponding calculations within the Web object's state machine are highly self-contained and concurrent, hiding networked database contention and database locking, and enforcing atomicity with it's runtime software. Calculations are performed and displayed from within a very small context within each Web object's state minimizing external communications and further simplifying software application development efforts.

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